

UNCLASSIFIED

PROCESSING DATE--27NOV70

2/2 018

CIRC ACCESSION NO--AA0130107

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. AGGREGATE WAS OBTAINED FROM

METALLURGICAL SLAG BY CRYSTG. THE SLAG MELT AND COOLING THE HARDENED

SLAG WITH WATER. TO GUARANTEE THE INCREASED RECOVERY OF METALLIC

INCLUSIONS FROM THE SLAG, SOLIDIFICATION OF THE SLAG MELT TOOK PLACE IN

BULK AND THE HARDENED INGOT WAS SUBMERGED IN WATER TO BE COOLED, PRIOR

TO BREAKUP INTO AGGREGATE.

RESEARCH INSTITUTE OF HIGHWAYS.

FACILITY: STATE ALL UNION SCIENTIFIC

UNCLASSIFIED

AA0040723

Likhтерман, Ya. N.

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 7-70

242339 MOLTEN METAL VESSEL WEIGHER where the vessel (1) is on hydraulic rams (2) coupled to a portioner (4) and rod (5), the line between this and the ram (6) including the weigher pickup (7). With the ram (6) on power it moves the rod (5) to a fixed end position. Medium from the portioner floods along the lines (3) to the lifting rams (2) which raise the vessel and contents into the weighing position. Force equal to the weight of the vessel and metal is transmitted via the rams, lines and medium and the rod onto the power ram (6); this holds the vessel and is fixed by the pick up which indicates the weight.

9.6.66 as 1081433/22-2. ZHIDOVINOV, V.A. et al. METAL PLANTS PLANNING INST. (8.9.69) Bul 15/25.4.69. Class 31b2r. Int.Cl.B 22d.

19750368

AA0040723

AUTHORS: Zhidovinov, V. A.; Likhterman, Ya. N.; Margolin, Sh. M.;
and Rutus, M. V.

Gosudarstvennyy Soyuznyy Institut po Proektirovaniyu
Metallurgicheskikh Zavodov

19750370

9/3

AA0044648

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

2/70

238191 INSTRUMENT FOR INVESTIGATING PIEZOELECTRIC CONVERTER has been improved by making the carrier of the tested sample (3) as a yoke. The vertical movements of the carrier are provided by a screw (14) and the mounting (18) of the sample can be adjusted in the horizontal plane by a screw (19). Both position adjusting screws (14 & 19) have their locking arrangements (20). A mirror (5) from the optical part of the instrument is mounted by a spring (4) on the free end of the sample.

27.10.65 as 1034534/18-10.V.N.MYZNIKOV et al
(3.7.69) Bul 9/20.2.69. Class 42k, Int.Cl.G 011.

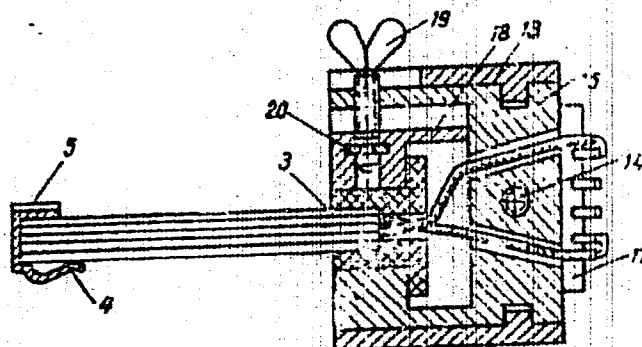
AUTHORS: Myznikov, V. N.; Mamedov, V. I.; Likhterov, V. M.

1/2

4

19771360

AA0044648



2/2

19771361

jc

UDQ 621.52:539.23

USSR

TERENT'YEV, YU.P., ISHIMBAYEV, R.V., LIKHTMAN, A.YE., NEMIROVSKIY, L.N.,
SEYDMAN, L.A., SUVOROV, V.N., MOROZOV, G.A.

"Vacuum Deposition Unit With Electron Beam Evaporator [DE-394, 11 pp, 2 fig]

Elektron. prom-st'. Nauch.-tekhn.sb (Electronics Industry. Scientific-Technical
Collection), 1971, No 3, p 62 (from RZ--Elektronika i yeye primeneniye, No 3,
March 1971, Abstract No 3A45)

Translation: A vacuum deposition device was developed with an electron beam
evaporator for deposition of layers of metals and semiconductors during their
evaporation by the non-crucible method. The evaporator consists of an electron
gun, a focusing and defocusing system and a magnetic prism. Use of the magnetic
prism, which turns the electron beam by 90°, makes it possible to eliminate
completely covering up [zapyleniye] of the electron gun by the material being
evaporated. The gun is removed from the evaporation zone and consequently heating
of the substance being evaporated and the gas precipitated on it does not affect
it. This assures great reliability of evaporation, the period of continuous oper-
ation of which ≥ 50 hours and is determined only by the lifetime of the cathode
of the electron gun. The diameter of the evaporation zone with an accelerating
voltage of 20 kv and a beam current up to 25 mA is not more than 1 mm. The dis-
tance from the evaporation zone to the substrate is 60 mm. A.I.

1/1

- 180 -

1/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ON EVALUATION OF USE OF CHICK EMBRYOS AND CELL CULTURES FOR
DIAGNOSIS OF DISEASES CAUSED BY EPIDEMIC PAROTITIS VIRUS -U-
AUTHOR-(02)-LIKHTOROVICH, S.A., MAKSIMOVICH, N.A.
COUNTRY OF INFO--USSR
SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 3, PP 361-366
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--CELL CULTURE, VIROLOGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1838 STEP NO--UR/0402/70/000/003/0361/0366
CIRC ACCESSION NO--AP0125449
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125449

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BASED ON THE STUDIES AND COMPARISONS OF VIROLOGICAL AND MORPHOLOGICAL CHARACTERISTICS, IT IS DEMONSTRATED THAT THE METHOD OF INOCULATION OF CELL CULTURES FOR ISOLATION OF EPIDEMIC PAROTITIS VIRUS FROM PATIENTS IS MUCH LESS EFFECTIVE THAN INOCULATION OF CHICK EMBRYOS. IN THE AUTHORS' OPINION, THE MAIN ABSTACKE FOR APPLICAITON OF CELL CULTURES FOR DIAGNOSTIC PURPOSES CONSISTS IN THE SPECIFICITY OF THE CYTOPATHIC EFFECT OF THE VIRUS. FACILTIY: INSTITUT INFEKTSIONNYKH BOLEZNEV MINISTERSTVA ZDRAVCOKHRANENIYA UKRAINSKOY SSR, KIEV.

UNCLASSIFIED

USSR

UDC 681.335.5

LIKHTSINDER, B.Ya., KOSOLAPOV, A.M.

~~"Autocompensation Multiplier-Divider"~~

Radioelektron. v Nar. Kh-ve SSSR, Ch. 2 [Radio Electronics in the USSR National Economy, Part 2], Kuybyshev, 1970, pp 494-497 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No. 4, 1971, Abstract No. 4B103 by IV).

Translation: The construction of a device performing the operations of multiplication, division, and raising to a power on 4 input variables from one to ten volts, with recording of the input and output variables, is described. 1 fig.

1/1

- 25-

USSR

UDC: 621.335.5

LIKHTSINDER, M. Ya., MAKAROV, V. P., CHEPURNOV, V. V.

"A Device for Multiplying and Dividing Slowly Changing Signals"

Nauch. tr. VNII kibernet. (Scientific Works of the All-Union Scientific Research Institute of Cybernetics), 1971, vyp. 4, pp 66-70 (from RZh-
-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 7, Jul 72,
Abstract No 7B488)

Translation: A device is described for analog multiplication and division of several variables represented by square bipolar voltage pulses. The device incorporates a sawtooth voltage generator, a null indicator, a phase-sensitive rectifier, an AC amplifier, a comparison circuit, synchronous filters, and pulse dividers. The error of executing the operations is one percent or less. Two illustrations, bibliography of four titles. V. R.

1/1

Nuclear Physics

UDC 537.591.1

USSR

VERNOV, S. N., GRIGOROV, N. L., LIKIN, O. B., LOGACHEV, Yu. I., FISARENKO, N.F.,
SAVENKO, I. A., VOLODICHEV, N. N., and SUSLOV, A. A., Scientific Research
Institute of Nuclear Physics, Moscow State University.

"Studies of Cosmic Radiation Aboard the Prognoz Satellites"

Moscow, Izvestiya Akademii Nauk SSSR, Fizika; Vol 37, No 6, 1973, pp 1138-1143

Abstract: Two Prognoz satellites were launched in April and June of 1972 into orbits with the following parameters: apogee -- 200,000 kilometers, perigee -- 950 kilometers, angle of inclination 65° . The satellites were launched toward the sun, the angles between projections of the apsides and the orbit through the plane of the ecliptic and the direction of the sun being 22 and 23 degrees, respectively. The angle between projections of the apsides of the two satellites was 77° in July 1972. The satellites served about six months each. Although they were in orbit during the decline in the 11-year solar cycle, their first months of observation coincide with an anomalous increase in solar activity. Background radiation was almost never recorded in these months. From April through September 1972, interplanetary space was filled with intensive streams of solar protons at energies of about 1 Mev. Higher energy protons were observed only during the August flares. The electron flow

1/3

USSR

VERNOV, S. N., et al., Izvestiya Akademii Nauk SSSR, Fizika; Vol 37, No 6, 1973, pp 1138-1143

was well correlated with the protons. Absorbed radiation dose during this interval, except for 2-7 August, was steady at approximately 24 mrad per day.

Calculations from the uniform nature of the declines in intensity of solar proton activity indicate that the absorbing layer is at a distance of approximately two astronomical units from the sun. It is remarkable that the state of interplanetary space remained the same over a long interval, in spite of substantial manifestations of solar activity; when perturbed, it recovered rapidly.

Increases in electron flow were observed several times without any corresponding increase in proton output, but every increase in proton output from the sun was accompanied by an increase in electron flow.

During intervals of low solar activity, the detectors which determined these correlations established a strong negative correlation between the counts of extra-solar protons at over 30 Mev and electrons under 500 kev.

The satellites recorded the intense solar activity of early August. An interesting phenomenon was the sharp increase in the flow of particles at all energies over the course of 2.5 hours early on 5 August. The peaks in the curves had particularly steep leading and trailing edges. It is theorized

2/3

USSR

VERNOV, S. N., et al., Izvestiya Akademii Nauk SSSR, Fizika; Vol 37, No 6,
pp 1138-1143

that this represented a magnetic "trap" with dimensions of approximately 0.1 au, traveling at approximately 2500 kilometers per second; the absence of any nucleons with $Z \geq 6$ indicates that the particles must all have been of solar origin.

3/3

USSR

UDC 547.63

LIKSANDRU, T. S.

"Synthesis of 1-Chloro-1'-ethynylferrocene"

Leningrad, Zhurnal Obshchey Khimii, Vol 42 (104), No 9, Sep 72, pp 1991-1992

Abstract: Reacting 1-chloro-1'-acetylferrocene with POCl_3 in dimethylformamide yields 1-chloro-1'(α -chloro- β -formylvinyl)ferrocene, m.p. 53° which was converted to the 1-chloro-1'-ethynylferrocene by action of NaOH in aqueous dioxane. The product is a noncrystallizable yellowish-brown oily substance.

1/1

Physical Properties

UDC 669.018.5:538.21

USSR

LIVSHITS, B. G., SUMIN, V. I., LILEYEV, A. S., and SEL'YAPIN, A. D., Moscow
Institute of Steel and Alloys

"The Effect of Cubic Crystalline Anisotropy on the Magnetic Properties of the
YuNDK35T5 Alloy"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Chernaya Metallurgiya, No
11, 1970, pp 122-125

Abstract: Temperature dependences of the saturation magnetization coercivity, the constant of uniaxial anisotropy, and the constant of the cubic crystalline anisotropy were investigated on the YuNDK 35T5 alloy (35% Co; 13-14% Ni; 7.5% Al; 5% Ti; 3.5% Cu; the rest Fe) after isothermal treatment. A comparison of experimental and theoretical data led to the conclusion that other anisotropy types in the YuNDK35T5 alloy should be investigated. On the basis of the Stoner-Wohlfarth formula the angular dependences of the coercivity for a single-domain anisotropic-form particle with a cubic crystalline anisotropy were established. Cubic crystalline anisotropy was shown to have a considerable effect on the remagnetization mechanism of the alloy. It also explains the greatly increased coercivity in tempering.

1/1

1/2 019 UNCLASSIFIED PROCESSING DATE--090CT70
TITLE--EFFECT OF THE CHEMICAL NATURE OF COMPONENTS ON THE APPEARANCE OF
SOLUBILITY ISOTHERM BRANCHES IN TERNARY AQUEOUS ELECTROLYTE SOLUTIONS
AUTHOR--(02)--LILICH, L.S., CHERNYKH, L.V.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(1), 43-8

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--AQUEOUS SOLUTION, SOLUBILITY, ELECTROLYTE, HYDROLYSIS,
MOLECULAR STRUCTURE, ISOTHERM, SODIUM CHLORIDE, HYDROCHLORIC ACID,
SODIUM NITRATE, LITHIUM CHLORIDE, ZINC CHLORIDE, CALCIUM SULFATE,
CADIUM COMPOUND, COPPER COMPOUND, PERCHLORATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1993/1906

STEP NO--UR/0153/70/013/001/0043/0043

CIRC ACCESSION NO--AT0114346

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--0900T70

CIRC ACCESSION NO--AT0114346

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FORM OF THE SOLY. ISOTHERM FOR SALTS IN H SUB2 O AS A FUNCTION OF THE CONCN. OF A 2ND SALT IS ONE OF 4 TYPES: (1) THE SOLY. OF THE 1ST COMPONENT DECREASES WITH INCREASING CONCN. OF THE 2ND COMPONENT; (2) THE SOLY. OF THE 1ST COMPONENT INCREASES WITH INCREASING CONCN. OF THE 2ND COMPONENT; (3) THE CURVE OF SOLY. OF THE 1ST COMPONENT GOES THROUGH A MAX. AS THE CONCN. OF THE 2ND COMPONENT INCREASES; AND (4) THE CURVE SHOWS A MIN. AS THE CONCN. OF THE 2ND COMPONENT INCREASES. EXAMPLES OF (1) ARE: THE SOLY. OF NaClO SUB4 AS AFFECTED BY INCREASING CONCN. OF HClO SUB4, CaClO SUB4) SUB2 CO(CLO SUB4) SUB2, OR Al(CLO SUB4) SUB3, AND THE SOLY. OF NaCl AS AFFECTED BY INCREASING CONCN. OF NH SUB4 CL, KCl, LiCl, OR HCl. EXAMPLES OF (2) ARE THE EFFECT OF HCl ON THE SOLY. OF HgCl SUB2, OF Hg(CLO SUB4) SUB2 ON THE SOLY. OF HgCl SUB2, OF CSNO SUB3 ON THE SOLY. OF HANO SUB3, AND OF NH SUB4 NO SUB3 ON THE SOLY. OF NH SUB4 NCS. THESE ARE ATTRIBUTED TO COMPLEX FORMATION, HYDROLYSIS, OR MODIFICATION OF WATER STRUCTURE. EXAMPLES OF (3) ARE THE EFFECT OF CSCL, NaCl, LiCl, OR HgCl SUB2 ON THE SOLY. OF CASO SUB4 (HYDRATION EFFECTS). EXAMPLES OF (4) ARE THE EFFECTS OF ZNCL SUB2 ON LiCl SOLY., UU SUB2 (NO SUB3) SUB2 ON CSNO SUB3 SOLY., HNO SUB3 ON LINO SUB3 SOLY., AND H SUB2 SO SUB4 ON MGSO SUB4 SOLY., AND EFFECTS OF HClO SUB4 ON THE SOLY. OF PERCHLORATES OF CO PRIME2POSITIVE, CA PRIME2POSITIVE, CU PRIME2POSITIVE, ZN PRIME2POSITIVE, MN PRIME2POSITIVE, CO PRIME2POSITIVE, AND NI PRIME2POSITIVE. FACILITY: LENINGRAD. GOS. UNIV. IM. ZHDANOVA, LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC: 531.36+62-50

LILLOV, L. K.

"Stabilization of Stationary Motion in Mechanical Systems on the Part of the Variables"

Moscow, Prikladnaya matematika i mekhanika, vol 36, No 6, 1972, pp 977-985

Abstract: The mechanical system considered in this paper is a holonomic and scleronomous system with n degrees of freedom, describable in terms of the Hamiltonian q_r , \dot{q}_r , and p_r ($r = 1, \dots, n$) where the q , \dot{q} , and p are the position coordinates, velocities, and momenta respectively. It is assumed that nonpotential forces Q_r act on the system in addition to potential forces. The problem to be solved is concerned with the stabilization of the system relative to the position coordinates and velocities of its stationary motion, the stabilization to be made through forces acting only on the cyclical coordinates q_α ($\alpha = m+1, \dots, n$), $\partial H / \partial q_\alpha = 0$, where H is the Hamiltonian function. The value for perturbations of the cyclic momenta is found, and a method for the asymptotic stabilization of the system's stationary motion is proposed. As an

1/2

USSR

UDC: 531.36+62-50

LILOV, L. K., Prikladnaya matematika i mekhanika, vol 36, No 6, 1972, pp 977-985

example of how the method is used, the author considers stabilization of a satellite gyrost at in an equilibrium position through the use of flywheels. The author expresses his gratitude to V. V. Rumyantsev for posing the problem and discussing the work.

1/3 022 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--ON THE CONSTANCY OF THE HYDROPHOBIC NUCLEUS VOLUME IN MOLECULES OF
MYOGLOBINS AND HEMOGLOBINS -U-
AUTHOR-(02)-LIM, V.I., PTITSYN, D.B.

COUNTRY OF INFO--USSR

SOURCE--MOLEKULYARNAYA BIOLOGIYA, 1970, VOL 4, NR3, PP 372-382

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--AMINO ACID, HEMOGLOBIN, MUSCLE PHYSIOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0435

STEP NO--UR/0463/70/004/003/0372/0382

CIRC ACCESSION NO--AP0132659

UNCLASSIFIED

2/3 322

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0132659

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. AMINO ACID REPLACEMENTS IN

MOLECULES OF MYOGLOBINS AND HEMOGLOBINS OF DIFFERENT ORIGIN HAVE BEEN INVESTIGATED. 31 OF 34 SITES OCCUPIED BY NONPOLAR AMINO ACID RESIDUES IN ALL 52 PRIMARY STRUCTURES KNOWN AT PRESENT FORM A UNIFIED HYDROPHOBIC ZONE (HYDROPHOBIC NUCLEUS OF THE GLOBULE). THE STATISTICAL ANALYSIS OF THE AMINO ACID REPLACEMENTS IN THIS HYDROPHOBIC NUCLEUS HAS SHOWN THAT THEY OCCUR IN SUCH A MANNER THAT THE NUCLEUS VOLUME REMAINS APPROXIMATELY CONSTANT: THE VOLUME DISPERSION DOES NOT EXCEED 230 ANGSTROM PRIME⁶ (WHICH CORRESPONDS TO THE MEAN SQUARE DEVIATION OF 15 ANGSTROM PRIME³) PER SITE IN WHICH AMINO ACID REPLACEMENTS TAKE PLACE. IT IS NOTEWORTHY THAT AT COMPLETELY RANDOM SUBSTITUTIONS OF ONE NONPOLAR AMINO ACID FOR ANOTHER THE VOLUME DISPERSION OF ONE SITE WOULD BE 4000 ANGSTROM PRIME⁶ (THE MEAN SQUARE DEVIATION MINUS 40 ANGSTROM PRIME³). THE FURTHER STATISTICAL ANALYSIS MAKES IT POSSIBLE TO ESTABLISH THE EXISTENCE OF TWO MECHANISMS ENSURING THE CONSTANCY OF THE HYDROPHOBIC NUCLEUS VOLUME. ON THE ONE HAND, THERE IS A CERTAIN RESTRICTION OF VOLUMES OF THE SIDE GROUPS WHICH CAN OCCUPY EVERY GIVEN SITE IN THE HYDROPHOBIC NUCLEUS, AND, ON THE OTHER HAND, THE HYDROPHOBIC NUCLEUS VOLUME, AS A WHOLE, AND THE VOLUMES OF NUCLEUS SITES, COMPOSED OF THREE SIDE GROUPS EACH, ARE MORE CONSTANT THAN THE VOLUMES OF THE SIDE GROUPS OCCUPYING EVERY INDIVIDUAL SITE, I. E., THE AMINO ACID REPLACEMENTS IN HYDROPHOBIC NUCLEI DO LOCALLY COMPENSATE EACH OTHER.

UNCLASSIFIED

3/3 022

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0132659

ABSTRACT/EXTRACT--INASMUCH AS THE VOLUMES OF NONPOLAR SIDE RADICALS ARE PROPORTIONAL TO FREE ENERGIES OF THEIR TRANSFER FROM THE ORGANIC SOLVENT (ETHANOL) TO WATER AT THE SAME TIME FOR THE CONSTANCY OF THE VOLUMES OF NUCLEI MEANS ALSO A CONSTANCY OF FREE ENERGY FOR STABILIZING THE NATIVE SPATIAL STRUCTURE OF GLOBINS BY HYDROPHOBIC INTERACTIONS.
FACILITY; INSTITUTE FOR PROTEIN RESEARCH, ACADEMY OF SCIENCES, USSR, PUSTCHINO-ON-OKA.

UNCLASSIFIED

USSR

UDC 624.196.1(211).001.57

LIMANOV, YU. A., Professor, D-r of Technical Sciences, GEVINTS, G. YA., and
GOLITSYNSKIY, D. M., Candidates of Technical Sciences

"Model Studies of Ground Pressures on Underground Hydraulic Structures in
Permafrost Areas"

Moscow, Gidrotekhnicheskoye Stroitel'stvo, No 10, 1971, pp 18-22

Abstract: The technique of modeling the permafrost rocks and their thawing process occurring as a result of operation of hydraulic structures is considered. The nature of the ground pressure and factors affecting the load magnitude from ground pressure during thawing of rocks are considered on the basis of model studies, using the equivalent materials. Similarity conditions for selecting equivalent materials are established. The results of the study on thawing of permafrost rocks around hydraulic tunnels attest the appearance and development, in that period, of deformations and disintegration of a significant rock stratum above the tunnel. Certain regularities related to sagging of the earth surface and sagging of separate rock layers within the massif, as well as the qualitative results of current phenomena are established, which make it possible to form an opinion, with certain approximation, on the qualitative side of these phenomena. Recommendations on modeling technique for permafrost rocks and on methods of determining the load magnitude from
1/2

USSR

LIMANOV, YU. A., et al., Gidrotekhnicheskoye Stroitel'stvo, No 10, 1971,
pp 18-22

ground pressure are presented. Load variation with ground pressure on tunnel arch, in relation to the depth of thawing zone, tunnel span and block disintegration degree in permafrost fissured grounds, measured on various models are plotted in graphs.

2/2

- 76 -

1/2 006 UNCLASSIFIED ✓ PROCESSING DATE--09OCT70
TITLE--INFLUENCE OF SOLUBLE NITROGEN COMPOUNDS ON THE PURIFICATION AND
SUGAR LEVEL IN MOLASSES -U-
AUTHOR-(05)-GOLUBEVA, A.D., KARTASHOV, A.K., LIMANSKAYA, A.YA., DUTSENKO,
L.D., VERCHENKO, L.M.
COUNTRY OF INFO--USSR
SOURCE--SAKH. PROM. 1970, 44(2), 27-31
DATE PUBLISHED--70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--NITROGEN COMPOUND, FOOD PRODUCTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1990/0946 STEP NO--UR/0339/70/044/002/0027/0031
CIRC ACCESSION NO--AP0109103

UNCLASSIFIED

2/2 006

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0109103

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DECREASED TECH. EFFICIENCY OF SUGAR BEET FACTORIES IN 1964-8 AS COMPARED WITH 1956-7 IS DUE TO THE POOR TECH. QUALITY OF SUGAR BEETS WHICH CONTAIN 70-5, 30-70, AND 400-600PERCENT OF THE NORMAL LEVELS OF K, P, AND N, RESP.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--THE IMPORTANCE OF DYSFUNCTION OF THE ADRENALS IN THE PATHOGENESIS
OF DIABETES MELLITUS AND DIABETIC ANGIOPATHIAS -U
AUTHOR-(05)-KONISSARENKO, V.P., YEFIMOV, A.S., POVOLOTSKAYA, G.M.,
LIMANSKAYA, G.F., BEZVERKHAYA, T.P.
COUNTRY OF INFO--USSR

SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 5, PP 118-123

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DIABETES MELLITUS, ADRENAL GLAND, HORMONE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3002/1772

STEP NO--UR/0497/70/048/005/0118/0123

CIRC ACCESSION NO--AP0129140

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0129140

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COMPLEX EXAMINATION OF 154 PATIENTS SUFFERING FROM DIABETES MELLITUS REVEALED DYSFUNCTION OF THE ADRENALS MANIFESTED BY AN INCREASE OF THE GLUCOCORTICOID, ANDROGENIC AND ADRENAL FUNCTION IN A SIMULTANEOUS REDUCTION OF THE MINERALCORTICOID ACTIVITY. THE NOTED DISTURBANCE WAS CHARACTERISTIC FOR PATIENTS DURING DECOMPENSATION OF THE DISEASE. WITH THE CONCOMITANCE OF VASCULAR COMPLICATIONS THERE WAS SEEN A MORE MARKED RISE OF THE CATECHOLAMINE AND ANDROGENIC ACTIVITY. GLUCOCORTICOID HYPERFUNCTION OF THE ADRENALS WAS MORE PECULIAR TO PATIENTS WITH INITIAL FUNCTIONAL LESIONS OF THE VESSELS. A SUPPOSITION IS MADE ON THE POSSIBLE PATHOGENETIC ROLE OF HYPERPRODUCTION OF CONTRINSULAR ADRENAL HORMONES IN THE DEVELOPMENT OF DIABETIC ANGIOPATHIAS. FACILITY: KIEV, N-1 INSTITUT ENDOKRINOLOGII I OBMEHA VESCHESTV.

UNCLASSIFIED

1/2 029 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--EFFICACY AND MECHANISM OF ACTION OF ANABOLYTIC STEROIDS IN DIABETIC
ANGIOPATHIES -U-
AUTHOR--(05)--YEFIMOV, A.S., LIMANSKAYA, G.V., LITVINENKO, A.F., LAPKO,
L.I., BCDNAR, P.N.
COUNTRY OF INFO--USSR

SOURCE--TERAPEVTICHESKIY ARKHIV, 1970, VOL 42, NR 6, PP 81-85

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DIABETES-MELLITUS, BLOOD VESSEL, EYE, ADRENAL GLAND,
CARBOHYDRATE METABOLISM, LIPID METABOLISM, MINERAL, RETINA,
ATHEROSCLEROSIS, HORMONE, PROTEIN, BLOOD SERUM, BLOOD PLASMA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3002/1889

STEP NO--UR/0504/70/042/006/0081/0085

CIRC ACCESSION NO--AP0129245

UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129245

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO EVALUATE THE IMMEDIATE RESULTS OF MONTHLY USE OF NEROBOL (IN THE DOSE OF 10 MG DAILY) IN 106 PATIENTS WITH DIABETES MELLITUS COMPLICATED IN 49 PATIENTS WITH MACRO AND 42, WITH MICROANGIOPATHIES THE AUTHORS STUDIED IN DYNAMICS THE INDICES OF CLINICAL SYMPTOMATICS, SPHIGMOGRAPHY OF THE LEG VESSELS, OPHTHALMOSCOPY OF THE EYE FUNDUS VESSELS, THE FUNCTIONAL CONDITION OF THE ADRENALS AND SOME ASPECTS OF CARBOHYDRATE, FAT AND MINERAL METABOLISM. THE POSITIVE CLINICAL EFFECT WAS OBSERVED IN THE MAJORITY OF PATIENTS (IN 34 OUT OF 39) WITH OBLITERATING ATHEROSCLEROSIS AND ONLY IN 5 OUT OF 42 PATIENTS WITH RETINOPATHY. A FAVOURABLE EFFECT OF NEROBOL ON SOME METABOLIC AND HORMONAL DISORDERS EXPRESSED ITSELF BY A COMPARATIVE INCREASE OF ALBUMIN SHARE IN THE PROTEIN SPECTRUM OF THE BLOOD SERUM, BY INCREASED CONCENTRATION OF INTRACELLULAR POTASSIUM, BY A DROP OF THE II OXICORTICOSTEROID LEVEL IN THE BLOOD PLASMA. NO SUBSTANTIAL CHANGES ON THE PART OF THE LIPID METABOLISM WAS MARKED. THE PRELIMINARY RESULTS PROVE THE EXPEDIENCY OF USING NEROBOL AS A MEANS OF PATHOGENIC TREATMENT OF DIABETIC ANGIOPATHY. FACILITY: KLINICHESKIY OTDEL KIEVSKOGO INSTITUTA ENDOKRINOLOGII I OBmena VESHCHESTV.

UNCLASSIFIED

Aluminum and Its Alloys

USSR

UDC 669.713.1

SAFONOV, V. N., LIMANSKIY, V. A., KLYUSHKIN, V. P., LEVKOV, YE. G., BULGA-KOVA, N. G., IL'INSKAYA, G. I., BORISENKO, N. A., and LEVKOVA, A. S.

"Physical Properties and Chemical Composition of Dust Formed During the Production of Aluminum and Silumin"

Tsvetnye Metally, No 4, Apr 71, pp 43-44

Abstract: Since the physical and chemical composition of a dust dictates the basic characteristics of the dust-collecting apparatus needed, a study was made of these characteristics of dusts collected during the production of electrolytic aluminum and silumin. Two methods of determining dispersibility were studied -- using triple cyclones and using impactors. The latter were found to give the most reliable results. The specific electric resistance for the dusts was measured and found to be $4 \times 10^7 - 4 \times 10^8$ ohms. cm for electrolytic aluminum and $5 \times 10^9 - 2 \times 10^{10}$ ohms.cm for silumin dust at the dew point of the gas in the temperature range of 20 to 40°C. At 100°C both forms of dust have a specific electrical resistance of less than $10^9 - 10^{10}$ ohms.cm. Other characteristics determined were density, bulk density, angle of rest, porosity, and moisture. The electrolytic aluminum dust was analyzed for total fluorine, Al_2O_3 , Na_2O , Fe_2O_3 , SiO_2 , CaO , MgO , resin, SO_4^{-2} , and calcination loss. 1/1

USSR

UDC 541.123.2:546.824-31'654.3-31'548.824-31'41- 1

KISEL', N. G., LIMAN'T. F., MUDROLYUBOVA, L. F., and CHEREDNICHENKO, I. F.

" CaTiO_3 - La_2TiO_5 System"

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, Vol 10, No 3, Mar 74, pp 465-468

Abstract: Samples for studying the CaTiO_3 - La_2TiO_5 system were produced by reacting an ammonia solution of ammonium carbonate with the chlorates of calcium, lanthanum, and titanium. After washing and drying, the residues were analyzed after heating for 6-12 hours at different temperatures (100-1300° C). Results of x-ray and chemical phase analysis showed that 6-8 hours is sufficient for establishing equilibrium. From the constructed phase diagram it was found that a region of CaTiO_3 -base solid solutions with a perovskite structure is formed. A new phase appears above 1100° C which could not be separated for identification but it was ascertained that this phase is a new compound with a composition close to that of $\text{Ca}_2\text{La}_2\text{Ti}_3\text{O}_{11}$. One figure, one table, 13 bibliographic references.

1/1

- 64 -

USSR

UDC 616.282.7-073

LIMAR, B. YA., Candidate of Medical Sciences, and TOMASHEVSKIY, P. S., Engineer of the Soudo-Acoustic Laboratory of the Kiev Scientific Research Institute of Otolaryngology

"Diagnostic Significance of the Sensation of Frequency Changes in the Modulation of Sound Intensity"

Kiev, Zhurnal Ushnykh, Nosovykh, i Gorlovykh Boleznay, No 5, Sep/Oct 71, pp 30-38

Abstract: Thresholds of differentiation of sound intensity modulation frequencies were studied in five persons with normal hearing and 39 persons with functional auditory disorders. Tests were made with threshold tonal audiometry, speech audiometry, and noise audiometry. Apparently, a lowering of the threshold of differentiation of sound intensity with impaired reception, regardless of modulation frequency, under certain conditions raises the apperception of speech as a result of physiological recruitment. With progressive auditory impairment, however, such recruitment disappears and apperception deteriorates. Comparison of thresholds of differentiation of sound intensity at different modulation frequencies was found to be of diagnostic significance, helping to determine the cause of disruption of speech apperception in certain forms of cochlear neurites.

1/1

USSR

UDC

LIMAREV, A. Ye., CHERNYSHOV, A. D., Voronezh

"The Propagation of Elastic Waves in an Elastic-Plastic Medium with Hardening"

Prikladnaya Matematika i Mekhanika, Vol 35, No 6, 1971, pp 1,083-1,088.

ABSTRACT: A study is made of the problem of propagation of elastic waves in an elastic-plastic medium with translational hardening. Difficulties in production of a closed system of equations require combined solution of the problems of propagation and the structure of shockwaves. In the problem of the structure of a wave, the changes in rupture quantities within the transition layer are described by a system of ordinary differential equations. Precise solution of the combined problems of propagation and structure is difficult; therefore, it is suggested for simplification that a linear dependence be assumed between the "rupture" functions within the transition layer. This method is used to produce a closed system of equations for an elastic-plastic medium and to investigate the properties of shockwaves.

1/1

- 83 -

USSR

UDC: 621.375.82

GOLDOBIN, A. S. and LIMASOV, A. I.

"Some Applications of Lasers in the Study of the Electrical Stability of Solid Dielectrics"

Tomsk, V sb. Tekhn. vysokikh napryazh. (High-Voltage Techniques-- collection of works) Tomsk University, 1973, pp 110-111 (from RZh-- Fizika, No 7, 1973, Abstract No 7P1087)

Translation: The authors explain the methods and examine the results of an investigation into the electrical stability of solid dielectrics by photographic means. To illuminate the specimens, a ruby laser operating in the monopulse mode (50 MW of power, duration of 30-50 ns) and in free oscillation (energy of 10 J, duration of 800 μ s) is synchronous with a source of high-voltage pulses. The processes of electrical breakdown were recorded with the MP-7 microscope and a fast photographic recorder SFR-11. The high resolving power and sharpness of photomicrographs obtained by the use of a laser as an illumination source as compared to ordinary light sources were noted. The need is demonstrated for studying the effect of laser radiation on electrical puncturing of a dielectric. The prospects of using holographic methods for studying the electrical stability of dielectrics are also noted. Bibliography of three. K. O. I.

1/1

USSR

UDC 681.325.5

LIMEZH G. K., TARDENAK, E. E., TIBERG, Ya. E., Latvian "Order of the Red
Banner of Labor State University imeni Petr Stuchka

"An Analog-Digital Converter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obrantsy, Tovarnyye Znaki,
No 4, Feb 72, Author's Certificate No 326725, Division H, filed 23 Mar 70,
published 19 Jan 72, p 213

Translation: This Author's Certificate introduces an analog-digital converter with digit-by-digit balancing. The converter contains a null indicator, a programmed logic device and a digital-analog converter. As a distinguishing feature of the patent, the device is designed for improved accuracy in measuring the ratio between two voltages in digital form. The unit contains a controllable shunt made in the form of parallel-connected conductances and switches. The shunt is connected in parallel with the output of the digital-analog converter, and the controlling inputs of the shunt are connected to the output of the programmed logic device.

1/1

USSR

UDC 629.7.036.54:536.46

YURMANOV, Yu. A., RYZHIK, A. B., LIMONOV, B. S., and MAKHIN, V. S.

"The Ignition of Dispersed Magnesium in Oxygen Behind Shock Waves"

Odessa, 11-ya Vses. Konf. po Vopr. Ispareniya, Goreniya i Gaz. Dinamiki Dispersn. Sistem, 1972—Sbornik (11th All-Union Conference on Problems of the Evaporation, Combustion, and Gas Dynamics of Dispersed Systems, 1972—Collection of Works), 1972, p 58 (from Referativnyy Zhurnal—Aviatsionnyye i Raketnyye Dvigateli, No 1, 1973, Abstract No 1.34.151. Resume)

Translation: The investigation of the relationship of the ignition lag time of metal particles to temperature involved experiments with a shock tube 7.5 m long with an internal diameter of 100 mm (the length of the high-pressure chamber was 3 m) and an initial inflammable-gas pressure of 120 torr. The detonation products of a mixture of $2H_2 + O_2 + 4He$ at various initial pressures and particle size not more than 20 microns were used as the pusher gas. From an analysis of the experimental data, it follows that the ignition of magnesium particles takes place in a reflected wave and the duration of preflame heating depends substantially upon the intensity of the incident shock wave. Calculations show that the heating of solid particles in a gas suspension leads to a considerable decrease of temperature in the

1/2

USSR

YURMANOV, Yu. A., et al., 11-ya Vses. Konf. po Vopr. Ispareniya, Goreniya i Gaz. Dinamiki Dispersn. Sistem, 1972--Sbornik, 1972, p 58

reflection zone, and in connection therewith this temperature should be regarded as the temperature of the medium, at which the ignition process develops. Within the temperature range of $T = 2160-3490^{\circ}\text{K}$ the ignition lag time turned out to equal 1.6-0.5 milliseconds. The disclosed exponential relationship of the ignition lag time to the temperature signifies that with a temperature increase, the lag value can become of the same order of magnitude as the induction period during detonation.

2/2

- 22 -

USSR

UDC: 536.46:533.6

YURMANOV, YU.A., RYZHIK, A.B., LIMONOV, B.S. and MAKHIN, V.S.

"On Ignition of Dispersed Magnesium in Oxygen Behind the Shock Waves"

Odessa, 11-ya Vses. Konf. po Vopr. Ispareniya, Goreniya i Gaz. Dinamiki Dispersn. Sistem, 1972 (11-th All-Union Conference on Problems of Evaporation, Combustion and Gas Dynamics of Dispersion Systems, 1972), 1972, p 58 (from Referativnyy Zhurnal-Mekhanika, 1973, Abstract No 2B1005)

Translation: Tests were conducted with a shock tube of 7.5 m length, 100 mm inside diameter (length of high-pressure chamber 3 m), initial pressure of oxidizing gas (oxygen) 120 mm of mercury. Products of explosion of $2H_2+O_2+4H_2$ mixture with various initial pressures were used as propelling gas, particle size did not exceed 20 micrometer.

Analysis of experimental data shows that the ignition of magnesium particles occurs in the reflected wave and that the duration of pre-ignition heating depends substantially on the intensity of the impinging shock

1/2

USSR

YURMANOV, YU. A., et al., 11-ya Vses. Konf. po Vopr. Ignireniya, Goreniya i Gaz. Dinamiki Dispersn. Sistem, 1972

wave. Calculations show that heating of solid particles suspended in the gas results in considerable reduction of reflection zone temperature, therefore it should be considered as temperature of the medium where ignition takes place. The observed exponential relation between ignition lag and temperature indicates that increase of the latter may result in ignition lag becoming of the same order as the duration of explosion induction.

2/2

- 36 -

USSR

UDC: 519.24

LIMOVA, L. K., MEDVEDEV, G. A.

"On Some Properties of Sequential Statistical Analysis"

Tr. Sib. fiz.-tekhn. in-ta pri Tomsk. un-te (Works of the Siberian Physico-technical Institute Affiliated With Tomsk University), 1970, vyp. 51, pp 135-142 (from RZh-Kibernetika, No 7, Jul 71, Abstract No TV309)

Translation: Attention is called to the fact that in Wald's well known sequential analysis, the comparison thresholds are independent of the number of the test, which makes the actual effectiveness of the tests higher, but requires a longer testing time than is required for obtaining the planned effectiveness. A somewhat modified procedure is proposed in which the comparison thresholds change from test to test. It is shown on the basis of examples that in this case the time of analysis is somewhat shortened as compared with Wald's case in obtaining the planned effectiveness. Authors' resumé.

1/1

- 22 -

UNCLASSIFIED PROCESSING DATE--03JUL70
TITLE--INVESTIGATION OF THE ANOMALOUS RESISTANCE OF A PLASMA DURING
TURBULENT HEATING -U-
AUTHOR--KALININ, YU.G., KINGSEF, A.S., ~~LIN, C.A.~~ RYUTOV, V.D., SKORYUPIN,
V.A.
COUNTRY OF INFO--USSR

SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKIY FIZIKI, 1970, VOL 58,
NO 1, PP 68-75
DATE FILMED-----7C

SUBJECT AREAS--PHYSICS

TOPIC TAGS--TURBULENT HEATING, PLASMA PHYSICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAPE--1973/1070

STEP NO--LR/CC55/7K/058/C01/0068/C075

CIRC ACCESSION NO--AP0038029

UNCLASSIFIED

26
5
31

Acc. Nr: **AP0038029**

Ref. Code: UR 0056

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy
Fiziki, 1970, Vol 58, Nr 1, pp 68-75INVESTIGATION OF THE ANOMALOUS RESISTANCE OF A PLASMA
DURING TURBULENT HEATINGYu. G. Kalinin, A. S. Kingep, D. N. Lin, V. D. Ryutov,
V. A. Skoryupin

The dependence of plasma resistance on initial conditions of the experiment during turbulent heating by a current is investigated. The plasma resistance decreases approximately as $n^{-1/2}$ with variation of the concentration between 10^{12} cm $^{-3}$ and 10^{14} cm $^{-3}$. The resistance does not depend on the magnitude of the confining magnetic field when the strength of the latter varies between 5 and 21 kOe. The ratio of the current velocity to the ion beam velocity is calculated on basis of the experimental results. It changes from 1.5 to 10 on variation of the concentration from 10^{12} cm $^{-3}$ to $5 \cdot 10^{13}$ cm $^{-3}$. The dependences obtained and turbulent heating are explained by assuming excitation of ion-acoustic instability in the plasma by a current.

REEL/FRAME
19731070

14

68

LIN CHEVŠKAYA, M. I.

JPUS 58852
25 April 1973

UDC 660.38

INVESTIGATION OF STRENGTHENING PROPERTIES OF
LAVES PLACES IN AUSTENITIC STEELS

Submitted by E. G. Tsypina (alleged), Academy of Sciences Georgian SSR),
M. I. Likhachev, N. A. Novikova, and G. G. Surenova, Academy of Sciences
Georgian SSR, Institute of Philosophy, 191111, Tbilisi, U.S.S.R. (National
Book Exhibition 888, Pionirm, Vol 56, No 3, 1971, submitted & accepted
pp 613-616)

Intermetallic compounds present much inherent for metal physicists and applied physical metallurgy. On one side, the investigation of intermetallics included a wide circle of experimental and theoretical methods which include chemical bonding, electron structure, structure, thermodynamics, etc. On the other side, it is possible to establish rapid progress in the technological use of intermetallics which find application in various fields of intermetallics, for example, in the production of heat-resistant alloys. In particular, for improving the stability of long-life mechanical properties at high temperatures, in many cases (copper-nickel alloys, nickel alloys) intermetallic strengthening turned out to be the most effective.

Phases forming between elements with a ratio of atomic diameters close to 1:2 comprising an important group of intermetallic phases. These phases have the structure of a layer phase. Layer phases are also packed, corresponding approximately to the formula AB_2 and are usually crystallized with a hexagonal lattice two-layer alternation of close-packed planes (type AB_2AB_2) or with a cubic lattice and three-layer alternating planes (type $AB_2AB_2AB_2$). In austenitic heat-resistant steels, Fe and Ni, while γ , δ , ϵ , η , and solid solutions among them, Cr, Ti and rare earths play the role of metal A most often. It was assumed that the role of metal B most often.

It was assumed in 1/ that bonding in layer phases carries a metallic nature. As the reason for this the low heats of formation (several kilocalories per gram-atom) are

11

[I - USSR - I]

USSR

UDC 669.24.053.27

LINCHEVSKIY, B. V., TARAKANOV, Yu. V., SOBOLEVSKIY, A. L.

"Deoxidation of Nickel During Vacuum Smelting"

Sb. tr. Mosk. Vech. Metallurg. In-t. [Collected Works of Moscow Evening Metallurgical Institute], No 13, 1971, pp 169-174, (Translated from Referativnyy Zhurnal, Metallurgiya, No 5, 1972, Abstract No 5 G390 by the authors)

Translation: Possible means are studied for removal of O during melting of Ni in a vacuum. It is demonstrated by thermodynamic regularities that the holding of liquid Ni at <6.3 mm hg pressure should result in removal of O. Experimental melts were performed in a resistance furnace at 10^{-2} , 10^{-3} , 10^{-4} mm hg at 1,550, 1,600, and 1,650°. The removal of O from Ni follows a first order kinetic equation, corresponding to a diffusion-adsorption mechanism for the process. Based on the results produced, an approximate diffusion factor of O and liquid Ni is calculated at 1,600° as $1.04 \cdot 10^{-4}$ cm/sec. Deoxidation of Ni in a vacuum using C is considerably more rapid than removal of O without the deoxidizers. 2 Figures; 2 Tables; 9 Biblio. Refs.

1/1

USSR

UDC 669.187.083.4.069.8

TARAKANOV, Yu. V., LINCHEVSKIY, B. V., Moscow Evening Metallurgical Institute

"Degasifying Melts in a Vacuum"

Moscow, IVUZ. Chernaya Metallurgiya, No 5, 1972, pp 46-50

Abstract: The authors study degasification of melts in a vacuum under dead melt conditions. The experimental melts were made in a TVV-4 resistance furnace with tungsten heater. An investigation was made of the effect of temperature and pressure on the rate of elimination of hydrogen from alloys of iron with 18.5% chromium, iron with 18.5% chromium and 11.7% nickel, and pure nickel. It is found that degasification of metal in a vacuum is limited by diffusion of hydrogen atoms through the incompletely mixed surface layer of the metal. The coefficients of mass exchange D/δ for Fe-Cr and Fe-Cr-Ni alloys and pure nickel are $0.96 \cdot 10^{-2}$, $1.45 \cdot 10^{-2}$ and $1.52 \cdot 10^{-2}$ cm/s respectively at 1600°C. The degasification process is accelerated by increasing the temperature and reducing the pressure above the melt.

1/1

USSR

UDC: 550.834

SHEPELENKO, F. P., LINCHEVSKIY, D. F., Krasnodar Affiliate of the All-Union Scientific Research Institute of Geophysical Prospecting Methods

"A Seismic Prospecting Method"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 31, Nov 71, Author's Certificate No 318002, Division G, filed 25 Feb 70, published 19 Oct 71, p 173

Translation: This Author's Certificate introduces a seismic prospecting method based on using a vibrator to excite oscillations of linearly varying frequency in the ground. As a distinguishing feature of the patent, the effectiveness of processing the recording is improved by separate recording of the signals received by a seismic receiver set up near the vibrator and by one set up at a distance. The signals are recorded in the form of segments which are added on a single registration unit throughout the entire operating period of the vibrator. The signal from the remote seismic receiver is amplified and multiplied with the signal from the receiver set up close to the vibrator. After low-frequency filtration and differentiation, the signal is again multiplied with that from the

1/2

- 119 -

USSR

LINDES, A. G.

"Influence of Crack Formation on Operation of Reinforced Concrete Beams on an Elastic Base"

Sb. Dokl. po Gidrotekhn. VNII Gidrotekhn. [Collected Reports on Water Engineering, All-Union Scientific Research Institute for Water Engineering], 1972, No 12, pp 219-224, (Translated from Referativnyy Zhurnal, Mekhanika, No 10, 1972, Abstract No 10 V1056, by the author).

Translation: It is shown on the basis of experimental studies that crack formation causes a sudden (by 1.5-2 times) decrease in rigidity. As a result of this, the reaction of the base is transformed in beams on an elastic base. The increase in the maximum stress in the base of structures resulting from this may reach 20-30%. The bending moment in beams are decreased by crack formation by 10-15% and more in comparison with the moments determined in the elastic stage. Consideration of this fact can lead to savings of reinforcement and concrete, allowing the useable loadings in structures to be increased.

1/1

- 83 -

USSR

UDC 517.949

BYKOV, YA. V., and LINENKO, V. G., Krasnodar Polytechnic Institute

"On the Stability of Solutions of Sum-Difference Equations"

Minsk, Differentsial'nyye Uravneniya, Vol 9, No 2, Feb 73, pp 349-354

Abstract: The article studies the stability of solutions of the system of sum-difference equations

$$L[u(n)] = f[n, u(n)] + \sum_{s=0}^n F[n, s, u(s)]$$

$$L[u(n)] = u(n+1) - Au(n) - \sum_{m=0}^{n-1} K(n-m-1)u(m),$$

$$K(n) = \sum_{i=1}^l Q_i(n) r_i^n, \quad Q_i(n) = \sum_{j=0}^{m_i} R_{ij} n^{(j)}.$$

1/2

USSR

BYKOV, YA. V., and LINENKO, V. G., *Differentsial'nyye Uravneniya*, Vol 9, No 2, Feb 73, pp 349-354

A, R_{1s} are k -square constant matrices; r_1 are constant numbers; $n^{(s)} = n(n-1) \dots (n-s+1)$ is the generalized power s of the number n ($n = 0, 1, \dots$); u, f are k -dimensional vector functions.

2/2

USSR

UDC 615.22:547.785.5

KOCHERGIN, P. M., ~~LIVENKO, V. I.~~, TRACHENKO, A. A., SAMURA, B. A.,
POVSTYANOV, M. V.: All-Union Scientific-Research Economico-
Pharmaceutical Institute imeni S. Ordzhonikidze, Moscow, and
Zaporozh'ye Medical Institute

"Studies of the Imidazole Series. LIII. Synthesis and Pharma-
cological Action of Derivatives of Imidazo(1,2-f)Xanthine"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, No 2, Feb 71, Vol 5,
pp 22-26

Abstract: Certain 7-acylmethyl-8-chloro(bromo)theophyllenes react
with primary and secondary amines to form 7-acylmethyl-8-alkylamino
(arylamino, dialkylamino)theophyllenes; the corresponding hydra-
zones were obtained from the latter, they are of interest because
of their tuberculostatic properties. Also synthesized were a
series of 7-acylalkyl-8-bromotheophyllines not previously described
in the literature, and various derivatives of 1 H-imidazo(1,2-f)
xanthine. Fifty-five compounds were studied.

The derivatives of 1 H-imidazo(1,2-f)xanthine were found to affect
1/2

USSR

KOCHERGIN, P. M., et al, Khimiko-Farmatsevticheskiy Zhurnal,
No 2, Feb 71, Vol 5, pp 22-26

the cardiovascular system (Preparation 3 depresses heart action in frogs, rabbits and cats; Preparations 1 and 2 increased contraction amplitude in excized frog hearts). Preparations 1 and 2 increased arterial pressure in rabbits, among other effects.

2/2

- 78 -

USSR

UNC 669. 018.25

LISOVSKIY, A. F. and LINENKO, Yu. P., Institute of Superhard Materials, Kiev

"Cermet Hard Alloys With Variable Cobalt Contents"

Kiev, Poroshkovaya metallurgiya, No 3, 1972, pp 38-41

Abstract: The objective of the study was to develop a new method of producing hard-alloy products with variable Co contents over the cross section as well as to determine the physicomachanical and service properties of such materials. The study involved 5 x 8 x 35-mm specimens sintered from VK2, VK6A, and VK15 powder mixtures. Experiments on contacting the sintered nonporous VK-2 alloy specimens with a cobalt melt (63 wt% Co and 37% WC) at pressures of 10^{-2} mm Hg at 1350°C show a cobalt penetration into the specimen to a depth of about 5 mm. In specimens prepared for variable Co contents, the latter varied from 2 to 18-20 wt% over the cross section. The variable Co content causes appropriate changes in physical and mechanical properties and wear resistance. The new method makes it possible to produce hard-alloy products with greater strength in areas exposed to tensile stresses and higher wear resistance in sections that are subject to intensive wear. (3 illustrations, 1 table, 5 bibliographic references)

1/1

USSR

UDC: 8.74

SEREBROVSKIY, L. A., SIBIRYAKOV, P. G., ~~LINETS, N. Ye.~~, PA-
NOVA, L. A.

"A System for Automating Programming and Output of Technical Documentation into a Program for Digital Control Computers (YaUZA-1)"

V sb. Tsifr. vychisl. tekhnika i programmir. (Digital Computer Technology and Programming--collection of works), vyp. 7, Moscow, "Sov. radio", 1972, pp 126-133 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V635)

Translation: The structure and principal technical operational and technical characteristics are given for a programming automation system whose input language is the YaUZA universal command autocode. The system can be used to prepare programs for an extensive class of digital control computers. The system is adapted to a specific digital computer by specifying its parameters and command system.

The system is realized on the M-220 computer. It automatically joins programs into a single large-volume program

1/2

- 64 -

USSR

SEREBROVSKIY, L. A. et al., Tsifr. vychisl. tekhnika i programmirovaniye, vyp. 7, Moscow, "Sov. radio", 1972, pp 126-133

(of the order of hundreds of thousands of commands). Preparation of the program is accompanied by automatic output of all technical documentation, which is formulated with regard to YeSKD requirements. Authors' abstract.

2/2

1/2 027 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--ELEMENTS OF SENSORY COMPENSATION IN THE INVALIDS EQUIPPED WITH
BIOELECTRIC FOREARM PROSTHESIS -U-
AUTHOR--(02)-LINETSKIY, M.L., ZAKARLYUKA, G.D.
COUNTRY OF INFO--USSR
SOURCE--ORTOPEDIYA, TRAVMATOLOGIYA I PROTEZIROVANIYE, 1970, NR 5, PP 14-17
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGGICAL AND MEDICAL SCIENCES
TOPIC TAGS--PROSTHESIS, ARTIFICIAL ORGAN, ELECTROPHYSIOLOGY, SENSORY
PHYSIOLOGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/0749 STEP NO--UR/9115/10/000/005/0014/0017
CIRC ACCESSION NO--AP0131344
UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0131344

ABSTRACT/EXTRACT--(U) GP-G- ABSTRACT. THE COMPENSATORY POTENTIALITIES OF PERCEPTION OF FINGER ORIENTATION OF BIOELECTRICAL FOREARM PROSTHESIS WITH RELAY CONTROL OF THE CENTRAL RESEARCH INSTITUTE OF PROSTHESIS CONSTRUCTION WERE STUDIED IN INVALIDS. THE AMPUTEE HAD TO BLINDLY REPRODUCE THE GIVEN DEGREE OF EXTENSION OF FINGERS OF THE ARTIFICIAL HAND. IN ONE VARIANT HE STUDIED THE ORDERED AND REPRODUCED EXTENSION WAS REALIZED BY THE PROSTHESIS; IN THE OTHER VARIANT, THE GIVEN EXTENSION WAS REALIZED BY THE NORMAL HAND, AND THE REPRODUCED ONE BY THE PROSTHESIS. TEN OF THE EXAMINED AMPUTEES DID NOT SHOW ANY MARKED DIFFERENCE IN REPRODUCTION OF FINGER POSITION IN COMPARISON WITH NORMAL PERSONS (CONTROL GROUP OF 77 SUBJECTS). HOWEVER, SUCH A DEGREE OF REPRODUCTION MAY BE ONLY ACHIEVED UNDER CONDITION OF INFORMATION ABOUT THE INITIAL POSITION OF FINGERS. USUALLY, RAPPROCHEMENT OF FINGERS BEGINS WITH FULL OPENING OF THE HAND. IT IS ASSUMED THAT COMPENSATION OF MUTUAL ORIENTATION PERCEPTION OF THE PROSTHESIS FINGERS IS REALIZED BY THE MECHANISM OF STRESS TIME READING OF THE GOVERNING MUSCLES.

FACILITY: KHARKOV. INSTITUT PROTEZIROVANIYA, ORTOPEDII I TRAVMATOLOGII IM. M. I. SITENKO.

UNCLASSIFIED

USSR

UDC 669.255'859'856.621.318.2

KRAPOSHIN, V. S., and LINETSKIY, YA. L., Moscow Institute of Steel and Alloys, Chair of Metallography

"Compounds of Rare Earth Metals (REM) with Cobalt (RCO_5) as Materials for Permanent Magnets"

Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 6, 1972, pp 111-117

Abstract: The center of investigations dealing with the development of methods for producing permanent magnets from RCO_5 -type compounds has shifted in the last 1.5-2 years. The densening on RCO_5 -type compounds, required for obtaining high energies, can be produced by applying high pressures or by sintering at high temperatures. K. Bushov et al. (J. Appl. Phys. 1969, Vol 40, p 4029) produced a relative density of 85% at up to 30 kbar pressures; the authors obtained, by means of uniaxial deformation of the briquet and under conditions of 20 kbar hydrostatic compression, relative densities of 95-97%. In this case, $(\text{BH})_{\text{max}}$ reached values of 18020 million gs.oe. Analogous and somewhat higher magnetic properties were produced from RCO_5 compounds by sintering. Probably, it will be possible to produce in the near future values which are close to $(\text{BH})_{\text{max}}$ limits. Variations of the PrCO_5 compound will

1/2

- 67 -

USSR

KRAPOSHIN, V. A., and LINETSKIY, YA. L., *Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya*, No 6, 1972, pp 111-117

make possible the creation of a range of materials with assigned combinations of technical characteristics. However, the most important unsolved problem is the development of an industrial technological process of producing permanent magnets from RCO_5 compounds of prescribed form and combination of properties. One figure, one table, thirty-five bibliographic references.

2/2

Organometallic Compounds

USSR

UDC 547.258.2 + 547.258.81

RAZUVAYEV, G. A., LATYAYEVA, V. N., LINEVA, A. N., Scientific-Research Institute of Chemistry at Gorki State University imeni N. I. Lobachevskiy, Gorkiy, Ministry of Higher and Secondary Specialized Education RSFSR

"Benzoyl Peroxide Reaction With Bicyclopentadienyl Titanium Compounds"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 8, Aug 70, pp 1804-1812

Abstract: Reaction of bicyclopentadienyldiphenyl titanium with benzoyl peroxide taken in a 1:1 ratio occurs with formation of an intermediary complex $(C_5H_5)_2Ti(C_6H_5)_2.(C_6H_5COO)_2$. Titanium is reduced to the trivalent state -- probably through a preliminary expansion of the electron cloud which results in the complex -- forming $C_5H_5Ti(OCOC_6H_5)_2$, benzene, and polymeric other. Cyclopentadienyltitanium dibenzoate reacts with benzoyl peroxide to 1/2

USSR

RAZUVAYEV, G. A., et al, Zhurnal Obshchey Khimii, Vol 40, No 8, Aug 70, pp 1804-1812

give cyclopentadienyltitanium tribenzoate. The same product may be obtained from the reaction of biscyclopentadienyltitaniumdiphenyl with benzoyl peroxide taken in a 1:5 ratio or through an exchange reaction $C_5H_5TiCl_3 + 3 C_6H_5COOAg$. When biscyclopentadienylphenylvanadium is reacted with benzoyl peroxide (a 1:1 ratio), biscyclopentadienylvanadiumdibenzoate is formed in a 50-80% yield plus benzene, polymeric ether, and some cyclopentadienylvanadiumtribenzoate. The yield of the latter product increases as the ratio benzoyl peroxide:biscyclopentadienylphenylvanadium is increased.

2/2

USSR

UDC 614.449.57:615.285.7

LJNEVA, V. A., PRSHIVORA, M., LEVIYEV, P. YA., OKULOV, V. P.,
GADZHIZALOV, D., SANINA, M. M., SAGATELOVA, I. S., and CECLENSKAYA,
L. F.

"Trails of the Czechoslovak Insecticide ES-50 Metathion in the USSR.
I. ES-50 Metathion Used to Control the Housefly"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, No 2,
1970, pp 211-220

Abstract: ES-50 metathion, an organophosphorus compound derived from phenitrothion O, O-dimethyl (O-3-methyl-4-nitrophenyl) thio-phosphate, was developed and tested in Czechoslovakia where it demonstrated a broad spectrum of action against flies, cockroaches, ticks, and crop pests. It has low toxicity for warm-blooded animals and no cumulative effect. Laboratory and field tests of the insecticide in five different climatic regions of the Soviet Union showed that it is highly effective in a dose of 2 g/m² of treated surface for 30-60 days. The temperature and humidity are the most important factors in the action of metathion. The higher the temperature and
1/2

USSR

LINEVA, V. A., et al., Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, No 2, 1970, pp 211-220

humidity, the more toxic its effect. Increasing the humidity of the room or moistening the treated surfaces increases metathion's potency, especially on glass or wood. Among the negative features: (i) it has an unpleasant odor; (ii) it leaves marks on the treated surfaces; (iii) flies seem to develop resistance to it fairly quickly.

2/2

REF. NO: **AP0047216**

Ref. Code: **UR 0504**

PRIMARY SOURCE: **Terapevticheskiy Arkhiv, 1970, Vol 42, Nr 1**
pp 24-27

**COMBINED USE OF ANTICOAGULANTS WITH ANABOLIC
STEROID PREPARATIONS IN COMPLEX THERAPY
OF PATIENTS WITH ACUTE CORONARY INSUFFICIENCY**

V. A. Lineva

Summary

The use of synthetic anticoagulants in combination with heparin in the complex therapy of patients with acute coronary insufficiency promotes lessening of the hypercoagulation condition and increase of its fibrinolytic activity without ensuring, however, its complete normalization. Patients with more considerable shifts in the protein composition of the blood were more resistant to anticoagulants. The mentioned observations became the basis for using complex therapy of patients with myocardial infarction and angina pectoris normalizing the protein composition. In view of this the authors used anabolic steroid preparations (methylandrosterendiol and nebrol) alongside anticoagulants. The observations conducted were highly statistically significant to prove that only combined use of anticoagulants with anabolic steroid preparations can lead to normalization of coagulative-anticoagulative properties of the blood.

REEL/FRA
19790718

Ref 2

1/2 025 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--THE EFFECT OF PROLONGED ACTION OF CHLOROPHOS ON NATURAL POPULATION
OF HOUSE FLIES -U-
AUTHOR--LINEVA, V.A.
COUNTRY OF INFO--USSR
SOURCE--MEDITSINSKAYA PARAZITOLOGIYA I PARAZITARNYYE BOLEZNI, 1970 VOL 39,
NR 1, PP 73-77
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--CHLOROPHOS, INSECT CONTROL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/0083 STEP NO--UR/0358/70/039/001/0073/0077
CIRC ACCESSION NO--AP0103763
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0103763

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LONG TERM APPLICATION OF CHLOROPHOS FOR CONTROL OF HOUSE FLIES CAUSE SOME DISORDERS IN THE BIOLOGY OF POPULATIONS OF THIS SPECIES WHICH KEEP THE POPULATION ABUNDANCE AT VERY LOW LEVELS DESPITE THE FACT THAT THE FLIES DEVELOP TOLERANCE TO CHLOROPHOS.

UNCLASSIFIED

USSR

UDC 576.851.252.097.22.095.57

ZUYEVA, V. S., and LINEVICH, Yu. G., Institute of Epidemiology and Microbiology
imeni Gamaleya, Academy of Medical Sciences USSR, Moscow

"The Mechanism of Disturbed Transmission of Extrachromosomal Determinants of
Staphylococcus Resistance"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 11, 1971,
pp 18-23

Abstract: The frequency of transmission of extrachromosomal determinants of
resistance to erythromycin was studied on combined cultures containing
Staphylococcus aureus 8325 as donors, phages Plide, and Staphylococcus aureus
8325-1 as recipients. The transmission frequency was reduced after addition
of aminoadamantane and proflavine, and it is believed that the inhibition
takes place in the phages. Neomycin also reduced the frequency of trans-
mission. However, since the reduction factor was 10 after 24-hr pretreatment
of the donor cells with neomycin, while it was 200 after a similar pretreat-
ment of the recipient cells, it is assumed that neomycin exerts its effect
by changing the properties of the cell membrane of the recipient Staphylococci.

1/1

- 32 -

USSR

UDC 576.851.252.097.22.095.57

ZUYEVA, V. S., PAVLOV, Ye. P., and LINEVICH, Yu. G., Department of General Epidemiology, Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Medical Sciences USSR, Moscow

"A Modified Method of Eliminating Extrachromosomal Resistance Factors From Staphylococci"

Moscow, Antibiotiki, No 11, 1971, pp 990-995

Abstract: Two cultivated strains of Staphylococcus aureus -- the 8321-1 strain with an intrachromosomal resistance to streptomycin and the 8321-P11 strain with an extrachromosomal resistance to erythromycin -- and a number of wild strains were soaked in Hottinger's broth and incubated either once with 12.5 micrograms of proflavine per ml of the culture medium or 20 times with 6 micrograms of proflavine per ml. After any single treatment, on 6% of the cells with extrachromosomal resistance became sensitive to the antibiotic; they lost their resistance completely after the sixth treatment. This change was due to a transfer of the resistance factor from the cell to the culture medium. Strains with intrachromosomal resistance factors retained their resistance after all treatments. The modified method, which is simpler and faster than the original one, is recommended for epidemiological investigations. 1/1

- 31 -

1/2 031 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--MOTOR ACTIVITY OF THE SMALL INTESTINE IN CHRONIC ENTERITIS -U-
AUTHOR--LINEVSKIY, YU.V.
COUNTRY OF INFO--USSR
SOURCE--VRACHEBNOYE DELO, 1970, NR 3, PP 27-30
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ENTERITIS, DUODENUM, JEJUNUM, MEDICAL APPARATUS, DIAGNOSTIC
MEDICINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1986/0954 STEP NO--UR/0475/70/000/003/0027/0030
CIRC ACCESSION NO--AP0102893
UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0102893

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. USING A GRAPHIC BALLOON METRIC TECHNIQUE THE AUTHOR INVESTIGATED THE ACTIVITY OF THE DUODENUM, JEJUNUM AND ILEUM IN 48 PATIENTS WITH CHRONIC ENTERITIS AND IN 10 HEALTHY CONTROL SUBJECTS. A DECREASE OF THE MOTOR ACTIVITY OF THE SMALL INTESTINE WAS FOUND IN MILD ENTERITIS, AVERAGE SEVERE ENTERITIS, THIS DECREASE BECOMING MORE DISTINCT IN SEVERE ENTERITIS.

UNCLASSIFIED

USSR

UDC 576.858.13.098.31.095.383

LINITSKAYA, G. L., ZHDANOVA, L. V., MENTKEVICH, L. M., and GALEGOV, G. A.,
Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences
USSR, and Institute of Epidemiology and Microbiology imeni N. F. Gamaleya,
Academy of Medical Sciences USSR, Moscow

"The Effect of Interferon on Induction of Alkaline and Acid DNA-ses in Cell
Culture Infected With Vaccinia Virus"

Moscow, Voprosy Virusologii, No 5, Sep/Oct 70, pp 549-552

Abstract: The effect of interferon on virus-induced synthesis of alkaline
(early) and acid (late) DNA-ses was studied. It was found that both enzymes
are highly sensitive to interferon and were significantly inhibited by it
even in the lowest dose studied. The highest concentration tested completely
blocked their synthesis. However, the interferon concentrations used were not
sufficient to inhibit production of the infectious virus. Interferon prevents
the combination of cell ribosomes with viral RNA to form viral polysomes and,
eventually, virus-specific early proteins. As a result, synthesis of viral
DNA polymerase and, consequently, of viral DNA is inhibited. This process
did not occur in the system studied. Evidently DNA polymerase is less sensi-
tive to the effect of interferon. The tests suggest that vaccinia virus can
1/2

USSR

LINITSKAYA, G. I., et al, Voprosy Virusologii, No 5, Sep/Oct 70, pp 549-552

multiply in cells in the absence of synthesis of both early and late DNA-ses.

2/2

- 55 -

1/2 011 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--ECONOMIC ENCOURAGEMENT OF HIGH QUALITY MANUFACTURING -U-
AUTHOR--(02)-LINKE, YE.A., PANTELEYEV, V.D.
COUNTRY OF INFO--USSR
SOURCE--STANDARTY I KACHESTVO, 1970, NR 3, PP 54-55
DATE PUBLISHED--70
SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES
TOPIC TAGS--ECONOMIC INCENTIVE, INDUSTRIAL PRODUCTION, QUALITY CONTROL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1986/1743 STEP NO--UR/0422/70/000/003/0054/0055
CIRC ACCESSION NU--AP0103507
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0103507

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXAMPLES ARE GIVEN OF ECONOMIC
INCENTIVES FOR HIGH QUALITY PRODUCTS ACCEPTED AT FIRST PRESENTATION.
DIFFERENT SYSTEMS OF ECONOMIC ENCOURAGEMENT ARE COMPARED.

UNCLASSIFIED

89

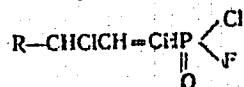
USSR

VIGALOK, I. V., FRIDLAND, S. V., DMITRIYEVA, N. V., LINKEVICH, N. S.

"Method of Production of Mixed Alkeno Phosphoric Acid Chlorides and Fluorides"

Otkrytiya Izobreteniya Fromyshlennyye Obraztsy Tovarnyye Znaki, No 5, 1972,
Patent No 355182.

Translation: 1. Method of production of mixed alkeno phosphoric acid
chlorides and fluorides with the general formula



where R is alkyl, differing in that the corresponding olefin is interacted
with phosphorus trichloride and perchloryl fluoride with subsequent separa-
tion of the end product by known methods.

2. Method according to Claim 1, differing in that the process is con-
ducted at a temperature of not over 20°C.

1/1

- 14 -

USSR

UDC 661.63.099.2.095

LINKEVICH, V. A., DADAKHODZHAYEV, A. T., NIYAZOV, M. I., and YEROFYEVA, O. B.,
Tashkent Polytechnical Institute

"The Problem of Ammophos Granulation During Its Production by a Combination Process"

Izvestiya VUZ -- Khimiya i Khimicheskaya Tekhnologiya, Vol 14, No 5, 1971,
pp 741-743

Abstract: When ammophos is produced by the combination process, the diameter of its granules changes exponentially. A slowed down growth of the granules, as compared to the process of normal distribution, indicates that along with the growth of the granules of the initial load, formation of new granules takes place. This points out a possibility for retreatment of poorly recoverable of nonrecoverable technological process for production of ammophos in a granulator-neutralizer using a pseudoliquefying layer, which however requires maintenance of an optimal technological process regimen coupled with a continuous separation of the finished product.

1/1

- 48 -

USSR

LINKHARD, J. Kh., DKHIR, V.

"Hydrodynamic Calculation of Maximum and Minimum Heat Fluxes During Boiling in an Open Volume"

Teplo. i Massoperenos. T. 2, Ch. I [Heat and Mass Transfer, Vol 2, Part 1 -- Collection of Works], Minsk, 1972, pp 274-298, (Translated from Referativnyy Zhurnal, Mekhanika, No 10, 1972, Abstract No 10 B847, by A. A. Ivashkevich).

Translation: Based on the hydrodynamic theory of the boiling crisis, the influence of shape and dimensions of a heater on the first (q_{\max}) and second (q_{\min}) critical heat flux densities during boiling of a fluid under natural convection conditions is analytically studied. Expressions are produced for heaters of various shapes for the ratio q_{\max}/q_{\min} , where q_{\max} is the first critical heat flux density determined from the Zuber equation (Zuber, N., AEC Rept. 1959, No AECU-4439) for a flat surface of unlimited size

$$q_{\max} = \frac{\pi}{24} \rho_f^2 h_{fg}^2 \sqrt{g(\rho_f - \rho_g)}$$

where g is the acceleration of the force of gravity, h_{fg} is the heat of evaporation

USSR

LINKHARD, J. Kh., DKHIR, V., Teplo. i Massoperenos. T. 2, Ch. 1, Minsk, 1972, pp 274-298.

poration, ρ_f and ρ_g are the density of the liquid and vapor, σ is the surface tension. For large heaters, the values of ratio q_{max}/q_{maxF} are: 1.14 for flat plates, 0.904 for horizontal cylinders, 0.84 for spheres, 0.9 for strips on a rib. For small heaters, expressions are produced for q_{max}/q_{maxF} which include the surface dimensions. Comparison of the results produced with experimental data from various studies show satisfactory results. Expressions are also produced where q_{min} for horizontal plates and cylinders. 27 Biblio. Refs.

Computers: Applications & Programming

USSR

UDC: 681.3.06:51

LINKIN, G. A., PETROVA, L. I., and TATARENKO, V. N.

"Methods of Analytic Description of Discretely Specified Plane Outlines of Complex-Shaped Parts"

Kiev, V sb. Chislovoye programmnoye upr. tekhnol. oborud. (Numerical Programmed Control of Technological Tools--collection of works) "Tykhnika," 1973, pp 8-13 (from RZh--Avtomatika, telemekhanika i vychislitel'naya tekhnika, No 12, 1973, Abstract No 12B167)

Translation: A classification is considered for the most widely used methods of solving problems in the analytic description of discretely specified outlines which is general for geometric interpretations and degree of accuracy in satisfying conditions at specified points. The methods and procedures for solving problems of discretely specified contours involve the replacement of the contours by analytic curves determined by the form of the connection between the substituted curve and the discrete points, with possible additional conditions depending on the geometrical interpretations of the problem's solution. Three illustrations, bibliography of 10. Resume.

1/1

USSR

UDC: 621.8.03-562

GULIA, N. V., LINKIN, L. D.

"The Accumulating Capacities of Super Flywheels"

Moscow, Vestnik Mashinostroyeniya, No 12, 1972, pp 11-12.

Abstract: Super flywheels, with recent developments in materials, vacuum chamber mountings and special bearings, can effectively replace existing power sources in motor vehicles, boats, submarines, tractors, cranes, trains, airplanes, space systems, interplanetary probes, hand tools, agricultural machines, etc. This article analyzes the accumulating capacities of wheel, bar and wedge-type super flywheels. From the standpoint of specific power capacity, all three types are equivalent; however, wheel types have the advantages of simplicity of manufacture, lower rotating speeds, ease of balancing and availability of space at the center of the wheel for mounting of suspension and transmission elements. Rod and wedge-type super flywheels have the advantage that the direction of the material fibers is the same as the direction of the applied stresses. Super flywheels in general have the advantage of being rupture-safe.

1/1

- 137 -

USSR

LINKIN, V. M., NAUMOV, B. P.

"One Adaptive Algorithm for Determination of Changes in Characteristics of an Observed Random Process"

Probl. Peredachi Inform. [Problems of Information Transmission], 1972, Vol 8, No 4, pp 40-45 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V327, by the authors).

Translation: An adaptive algorithm is suggested for determination of changes in the characteristics of an observed random process. It is assumed that these changes occur according to an unobserved homogeneous Markov chain with unknown transition probabilities. The number of states in the Markov chain is assumed known, as well as the conditional distributions of the observed quantities. At each moment in time (discrete time), the a posteriori distribution of the unobserved states of the chain is calculated. An algorithm for estimation of the unknown transition probabilities of the chain is presented which produced values which converge on the true values. An example is presented of the operation of the adaptive algorithm constructed in a probabilistic model of a Markov chain with observed quantities distributed binomially.

1/1

USSR

UDC: 51

LOBANOV, V. I., LINKIN, V. M.

"An Adaptive Algorithm for Solving a Class of Games"

Tr. 4-y Zimm. shkoly po mat. programir. i smazh. voprosam, 1971, vyp. 2
(Works of the Fourth Winter School on Mathematical Programming and Related Problems, 1971, No 2), Moscow, 1971, pp 99-111 (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V386)

Translation: An adaptive algorithm is proposed for finding the optimum strategies of a class of antagonistic finite games with complete information. Assuming certain limitations on the time of solution of the problem or on the computer memory, the algorithm constructs strategies which can be called "fairly good". The adaptive algorithm utilizes evaluation of a whole series of actions rather than just one. It is outlined as applied to many-move games where empirical information -- gain or loss -- relates to the entire set of moves of a player. [from the article].

1/1

- 17 -

Mining and Petroleum

USSR

UDC 622.011.43

LIN'KOV, A. M.

"On the Application of the Associated Law of Flow to Rocks"

Tr. VNII gorn. geomekh. i marksheyd. dela (Works of the All-Union Scientific Research Institute of Mining Geomechanics and Surveying), 1970, Collection 74, pp 441-450 (from RZh-Mekhanika, No 9, Sep 71, Abstract No 9V686)

Translation: It is noted that the application of the associated law to the Coulomb condition for soils is subject to criticism due to a quantitative divergence of the increase in volume under compression. The opinion is expressed that a similar structure of determining bonds will better correspond to rock. Verification is sought on the basis of experimental data on the plastic deformation of talcochromite and marble. The condition of plasticity is formulated in the form $f = f_1(J_1, F) + \sqrt{J_2} = 0$, where J_1 is the first invariant of the stress tensor and J_2 is the second, but its deviator; F is the strengthening parameter (work on irreversible deformation). The effect of the third invariant of the stress tensor is neglected after preliminary analysis.

1/2

USSR

LIN'KOV, A. M., Tr. VNII gorn. geomekh. i marksheyd. dela, 1970, Collection 74, pp 441-450

Loading surfaces (curved) are constructed on the basis of experimental data for different ways of loading and then plastic deformations of the volume and shift are constructed with the aid of the associative law. The latter are compared with values measured directly. Their satisfactory agreement is confirmed. It is emphasized in conclusion that an evaluation of changes in volume is important in analyzing rocks and blowouts. V. N. Nikolayevskiy.

1/2 010 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--AUTOMATIC CONTROL AND REGULATION OF PH DURING THE PRELIMINARY
TREATMENT OF ANTIBIOTIC CULTURE LIQUIDS -U-
AUTHOR-(Q4)-RUBAN, YE.A., RUSIN, V.N., ZHUKOVSKAYA, S.A., LINKOV, G.I.

COUNTRY OF INFO--USSR

SOURCE--KHIM.-FARM. ZH. 1970, 4(1), 54-7

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ANTIBIOTIC, HYDROGEN ION CONCENTRATION, FILTRATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0324

STEP NO--UR/0450/70/004/001/0054/0057

CIRC ACCESSION NO--AP0113250

UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0113250

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AUTOMATIC CONTROL OF THE PH OF
MEDIA USED TO PRODUCE ANTIBIOTICS ALLOWS REMOVAL OF IMPURITIES AND
FACILITATES FILTRATION. A DEVICE IS DESCRIBED FOR THE AUTOMATIC CONTROL
OF PH TO WITHIN 1.8-2.5 UNITS USING 45PERCENT H SUB2 SO SUB4, 30PERCENT
NAOH, AND DRIED CACL SUB2. FACILITY: VSES. NAUCH.-ISSLED. INST.
ANTIBIOT., MOSCOW, JSSR.

UNCLASSIFIED

USSR

UDC 534

LIN'KOV, R. V., POZDEYEV, O. D.

"Damping and Excitation Conditions of Transverse Oscillations of a Body Suspended Magnetically"

V sb. Konf. po kolebaniyam mekh. sistem. Tezisy dokl. (Conference on Vibrations of Mechanical Systems. Topics of Reports--collection of works), Kiev, Naukova Dumka Press, 1971, p 58 (from RZh-Mekhanika, No 11, Nov 71, Abstract No 11A150)

Translation: A study was made of the stability of a body hung from a single-shaft magnetic suspension and having three degrees of freedom in the absence of dissipative forces and damping of the transverse oscillations.

The sufficient conditions of Lyapunov stability and instability of the state of equilibrium are found. It is demonstrated that stability is determined by the sensitivity of the suspension sensor to the transverse oscillations and the characteristics of the ponderomotive force acting on the body.

It was established that on satisfaction of the stability conditions, asymptotic stability exists for a suspension of different rigidity and nonasymptotic stability for an axisymmetric suspension. Here, circular oscillations of the body are set up in the suspension the amplitude of which depends on the initial conditions. A comparison is made with the experimental results.

1/1

Information Theory & Pattern Recognition

USSR

UDC: 51:621.391

LIN'KOV, Yu. N.

"Epsilon-Entropy of Random Quantities"

Kiev, Teoriya sluchayn. protsessov--sbornik (Theory of Random Processes--collection of works), vyp. 1, "Nauk. dumka", 1973, pp 68-86 (from RZh-Matematika, No 8, Aug 73, abstract No 8V431 by the author)

Translation: Certain general properties of ϵ -entropy of random quantities are established. A formula of V. Yerokhin for ϵ -entropy of discrete random quantities is generalized to discrete random quantities having infinite entropy. Asymptotic formulas are derived for $\epsilon \rightarrow 0$ for the ϵ -entropy of continuous random quantities having finite moments of some order. The ϵ -entropy is calculated for random quantities whose probability distribution is a mixture of discrete and continuous distributions of different dimensionalities.

1/1

B. Information Theory

USSR

LINKOV, Yu. N.

"Epsilon Entropy of Random Quantities"

Teoriya sluchayn. protsessov [The Theory of Random Processes -- Collection of Works], No 1, Kiev, Nauk. Dumka Press, 1973, pp 68-86 (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1973, Abstract No 8 V431 by the author)

Translation: Certain general properties of epsilon entropy of random quantities are established. One formula of V. Yerokhin for the epsilon entropy of discrete random quantities is extended to discrete random quantities having infinite entropy. Asymptotic formulas are presented as $\epsilon \rightarrow 0$ for the epsilon entropy of continuous random quantities having finite moments of a certain order. The epsilon entropy of random quantities whose distribution is a mixture of discrete and continuous distributions of various dimensionalities is calculated.

1/1

USSR

UDC 621.391:519.8

LIN'KOV, Yu. N.

" ϵ -Entropy of Random Processes with Continuous Time and Discrete Phase Space"

Moscow, Problemy Peredachi Informatsii, Vol 7, No 2, 1971, pp 16-25

Abstract: The primary results of this study are contained in the following two theorems. Theorem 1. Suppose random process $\xi = \{\xi_t; t \in [0, T]\}$ satisfies the following conditions:

- 1) the quantities $H(v)$, $MH(\xi_{0v}|v)$, $Mh(\tau_{1v}|v, \xi_{0v})$ and Mv^{1+a} are finite for a certain $a > 0$, where $H(v)$ is the entropy of the number of jumps in v , $MH(\xi_{0v}|v)$ is the mean conditional entropy of ξ_{0v} where v is known, $Mh(\tau_{1v}|v, \xi_{0v})$ is the mean conditional differential entropy of τ_{1v} where v and ξ_{0v} are known,
 - 2) $P\{\delta_\tau < \delta\} = 0$ (δ^b), where $\delta \rightarrow 0$ for a certain $b > 0$, where $\delta_\tau = \min_{0 \leq k < v} (\tau_{k+1} - \tau_k)$, $\tau_0 = 0$, $\tau_{v+1} = T$.
- 1/2

USSR

LIN'KOV, Yu. N., Problemy Peredachi Informatsii, Vol 7, No 2, 1971, pp 16-25

Then as $\epsilon \rightarrow 0$

$$H_{\epsilon}(\xi) = Mv \log \frac{Mv}{2\epsilon\epsilon} + H(v) + MH(\xi_{0v}|v) + Mh(\tau_{1v}|v, \epsilon_{0v}) + O(1) \quad (2)$$

Theorem 2. If $\xi = \xi_t$; $t \in [0, T]$ is a Poisson process with parameter $\lambda > 0$ and phase space $X = \{0, 1, 2, \dots\}$, then where $\epsilon \rightarrow 0$

(3)

Proof of these theorems is presented

2/2

LIN'KOV, Yu. V.

JPRS 55320
1 MAR 72
UDC: 614.777.648.18

THE PROBLEM OF DETERGENTS IN WATER HYGIENE AND SANITARY PROTECTION OF RESERVOIRS

Article by Ye. A. Mozhuvev, V. P. Osintseva, O. I. Yurasova, Yu. V. Lin'kov, H. N. Zivney, L. A. Kopyrina, Moscow, Vestnik Akademii Meditsinskikh Nauk SSSR, Moscow, No 1, 1972, pp 42-47]

In the last few years a new branch of the chemical industry, production of synthetic surface active substances (SAS), has gained development in several countries, including the Soviet Union. These substances, which are often called detergents (from the Latin word, detergent, to purify), are used extensively in different branches of the economy, but especially in the production of synthetic washing agents. The latter products are intensively replacing the old traditional washing agent, soap, which appeared long before our times. The great demand for synthetic SAS is due first of all to their high cleaning properties. They have a good cleaning action not only under ordinary conditions but also in an acid medium and (unlike soaps) in hard and even salt water. Washing agents based on synthetic SAS destroy and disintegrate material less than soap, and they have a washing action even at a water temperature of 20-30° (S.M. Loktev, 1964).

Unlike the production of soap, no alimentary fats are needed to manufacture such agents, and this is important from the standpoint of the economy.

Recent, industry's interest in synthetic SAS is not solely related to their washing properties. These agents have revealed a number of other valuable properties: emulsifying, wetting, they improve technological processes and the quality of production, so that they could be used in the petroleum, construction, chemical, textile, pharmaceutical, and other industries, as well as in agriculture. The economic desirability of using SAS is the reason for the constant increase in production thereof; considerable expansion of such production is expected in the near future.

The manufacture and extensive use of SAS cannot help but result in appearance of these agents in the environment, especially in reservoirs of water, including sources of domestic and drinking water. At the present time, of the chemicals that pollute water reservoirs, SAS are perhaps the most widespread.

1/2 028 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--X RAY CHAMBER FOR STUDYING THE DEFORMATION OF THREADLIKE CRYSTALS
-U-
AUTHOR--(03)--YELISEYENKO, L.G., LEBEDINSKAYA, S.B., LINKOVA, D.YE.
COUNTRY OF INFO--USSR
SOURCE--PRIB. TEKH. EKSP. 1970, 1, 220-1
DATE PUBLISHED--70
SUBJECT AREAS--PHYSICS, METHODS AND EQUIPMENT
TOPIC TAGS--X RAY CAMERA, CRYSTAL DEFORMATION, FIBER CRYSTAL, X RAY
DIFFRACTION ANALYSIS, IRON
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1988/1554 STEP NO--UR/0120/70/001/000/0220/0221
CIRC ACCESSION NO--AP0106300
UNCLASSIFIED

2/2 028

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0106300

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN X RAY CAMERA IS DESCRIBED FOR STUDYING OF THE ELASTIC DEFORMATION OF THREADLIKE CRYSTALS BY USING THE CHARACTERISTIC RADIATION OF THE X RAY TUBE. REFLECTION OF CO K SUB ALPHAL RADIATION FROM THE (310) PLANE OF A FE WHISKER WAS PHOTOGRAPHED. THE FE WHISKER WAS DEFORMED BY TENSION. THE DEVICE MEASURES THE CHANGE IN INTERPLANAR DISTANCES WITH AN ACCURACY OF SIMILAR TO 0.01PERCENT.

FACILITY: DAL'NEVOST. GOS. UNIV., VLADIVOSTOK, USSR.

UNCLASSIFIED

USSR

UDC 547.294'22'13

LIN'KOVA, M. G., GREYCHUTE, D. I., RASTYKENE, L. P., and KNUNYANTS, I. L.,
Institute of Heteroorganic Compounds, Academy of Sciences USSR

"Bis- β -chloroethyl Sulfides. 2. Derivatives of α -Chloro- β -(β -chloro-ethylthio)- and α -(β -chloroethylthio)- β -chloroisobutyric Acid"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 11, Nov 71,
pp 2522-2529

Abstract: The article deals with the synthesis of modified yperite derivatives and the study of their chemical and biological properties. The addition of methyl-, phenyl- and β -chloroethylsulfenyl chloride to methacrylic acid derivatives in CCl_4 , CHCl_3 , ether or CH_2Cl_2 at low or room temperature proceeds preferentially to give the corresponding β -chloro- α -thioesters. For purposes of comparing properties, isomeric α -chloro- β -(β -chloroethylthio) derivatives of isobutyric acid were obtained by the decomposition of α -chloro- α -methyl- β -propiolthiolactone. Of the compounds obtained by the addition of sulfenyl chlorides to methacrylic acid and its derivatives the most stable is α -alkthio- β -chloroisobutyronitrile, which is not isomerized under normal conditions. Least stable are amides of α -alkthio- β -chloroisobutyric acid, 1/2

- 90 -

USSR

LIN'KOVA, M. G., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya
No 11, Nov 71, pp 2522-2529

which are isomerized under normal conditions into corresponding amides of
 β -alkthio- α -chloroisobutyric acid. No isomerization of β -chloro- α -
-phenylthio derivatives of isobutyric acid was observed.

2/2

1/2 012 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--LINEAR ELECTRIC FILTERS WITH DISTRIBUTED VARIABLE PARAMETERS AND
THE METHOD OF INTEGRAL EQUATIONS -U-
AUTHOR--LINKOVSKIY, Z.B.
COUNTRY OF INFO--USSR
SOURCE--LEIPZIG, WISSENSCHAFTLICHE ZEITSCHRIFT DER ELEKTROTECHNIK, VOL 14,
NO 3-4, PP 129-144
DATE PUBLISHED-----70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., MATHEMATICAL SCIENCES
TOPIC TAGS--ELECTRIC FILTER, LINEAR FUNCTION, INTEGRAL EQUATION, LAPLACE
TRANSFORM, VOLTERRA EQUATION, DIFFERENTIAL EQUATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1999/0147

STEP NO--GE/0062/70/014/03-/0129/0144

CIRC ACCESSION NO--AP0122407

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0122407

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE DEALS WITH THE DYNAMIC PERFORMANCE OF LINEAR FILTERS WITH DISTRIBUTED VARIABLE PARAMETERS. THE RESPONSE OF SUCH FILTERS INITIALLY UNEXCITED TO A DELTA FUNCTION (IMPULSE) INPUT SIGNAL IS TREATED BY THE INTEGRAL EQUATIONS METHOD DIRECTLY RATHER THAN THROUGH LAPLACE TRANSFORMATIONS. THUS, THE VOLTERRA EQUATION OF THE SECOND KIND IS DERIVED FOR THE FILTER CURRENT. THE SOLUTION OF THIS EQUATION AND THE RESULTING IMPULSE TRANSIENT RESPONSE FUNCTION ARE ANALYZED IN GENERAL TERMS. FURTHERMORE, SOME APPROXIMATING TECHNIQUES OF DETERMINING THAT IMPULSE TRANSIENT FUNCTION ARE SHOWN. ONE IS BASED ON THE CLASSICAL METHOD OF SOLVING THE SECOND KIND VOLTERRA EQUATION; ANOTHER IS BASED ON REPLACING THE INTEGRAL BY A FINITE SUMMATION ACCORDING TO SOME QUADRATIC FORMULA; A THIRD APPROACH IS BY POWER SERIES, AND THE FOURTH METHOD DISCUSSED HERE IS THAT OF REPLACING THE INTEGRAL EQUATION BY A SERIES OF ORDINARY DIFFERENTIAL EQUATIONS. A NUMERICAL PROCEDURE IS OUTLINED FOR THE LAST OF THESE METHODS WHICH IS PARTICULARLY WELL SUITED FOR COMPUTER AIDED SOLUTION. THE ARTICLE IS IN RUSSIAN.

UNCLASSIFIED

USSR

LINKOVSKIY, ZH. B. and MARKOV, E. I.

"Change in Reliability and Mean Time Between Failures of Systems with Changing Intensity of Failures of Elements"

Statistika, Inform., Vychisl. Tekhn. [Information Statistics, Computer Technology -- Collection of Works], No 5, Moscow, 1973, pp 177-180
(Translated from Referativnyy Zhurnal Kibernetika, No 10, 1973, Abstract No 10V267)

Translation: A system of n elements with intensity of failures $\lambda_1, \dots, \lambda_n$ is studied. Suppose $P(t) = F(t; \lambda_1, \dots, \lambda_n)$ is the probability of failure-free operation of the system over time interval $[0, t]$, $T = f(\lambda_1, \dots, \lambda_n)$ is the mean time between failures. It is suggested that the following quantity be used as a measure of the sensitivity of these characteristics to changes in the intensity of failures:

$$\theta_i(P) = \frac{\partial \ln F}{\partial \lambda_i}, \quad \theta_i(T) = \frac{\partial \ln f}{\partial \lambda_i}, \quad 1 \leq i \leq n.$$

Examples are studied.

I. Kovalenko

1/1

B. Information Theory

USSR

KATS, L. A., LINKOVSKIY, Zh. B.

"Method of Comparison of Approximation Criteria Using the Measure of Information"

Stat. i Elektronno-Vychisl. Tekhn. v Ekon. [Statistics and Electronic Computer Technology in Economics -- Collection of Works], Moscow, Statistika Press, 1972, pp 218-222 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V468, by A. Kuznetsov).

Translation: Suppose a_1, \dots, a_n is a nondecreasing sequence of positive numbers. For arbitrary number C , satisfying the inequalities $a_r \leq C \leq a_{r+1}$ with a certain $1 \leq r \leq n$, the quantity

$$I_C = \sum_{i=1}^n \left| \ln \frac{a_i}{C} \right|$$

is introduced and called the measure of information. The number C_0 , for which the function I_C is defined and minimal, is called the best estimate. No information on the expediency of the concepts introduced above is presented.